Title of Course	**Chemistry**		
Semester	Autumn/Spring		
Teaching Hours per Course:	**Total**	**- Lectures:**	**- Tutorials:**
	30	30	-
ECTS Credits	3		
The content of education			
Aims of Course	The subject is designed to impart to students knowledge related to matter constitution and its impact on properties of materials and substances as well as on chemical reactions. Special attention is paid to equilibrium in aqueous solutions and environmental issues.		
Program	W1 Basic chemical concepts. Fundamentals of matter constitution. Theories of atom structure. Subatomic particles. Isotops. Radioactivity. W2 State of electron in atom. Quantum numbers. Electronic configuration of atom. W3 Periodic table of elements. Properties of elements and their position in periodic table. Electronegativity. W4 Chemical bondings. Intermolecular bondings. W5 Electronic configuration of simple molecules. Hybridization. W6 General classification of chemical compounds. Types of chemical reactions. W7 Termodynamic and kinetic issues.W8 States of matter: gas, liquid and solid state as well as other matter states. Colloids. W10 Various ways of substances concentration expression. Calculations of concentrations. W11 Equilibrium in aqueous solutions. Dissociation. Electrolites and non-electrolites. Acids and bases theories. Dissociation constant and dissociation degree. W12 pH concept. Neutralization reactions. Hydrolysis of salts. Acid-base indicators. Buffer solutions. Solubility. Solubility product. W13 Oxidation state. Oxidation-reduction processes. Nernst equation. Corrosion.W14 Natural waters: components and their reactions, quality requirements and chemical pollutants. W15 Organic chemistry issues: carbon atom configuration in organic compounds, classification of organic compounds, isomerism.		
Conditions of completion	Written examination. The minimum examination pass mark is 50% points. There are two terms for examination (the first one and the re-taken one). The following scale of scores is applied: 90-100%: 5; 80-89%: 4,5; 70-79%: 4; 60-69%: 3,5: 50-59%: 3. There is a possibility to increase/decrease the final evaluation by one degree, depending on the student's activity.		
Teacher	dr hab. Zofia Kowalewska, prof. PW		